

CHAPTER 3: DEFINITION OF TERMS

NOTE: “TB bacteria” is used in place of *Mycobacterium tuberculosis* and *Mycobacterium tuberculosis* complex in most of the definitions presented here.

3.1 Acid-fast bacteria (bacilli)

Microorganisms that retain the colour of the solution they are stained with (during the smear process) even after they have been washed in an acid solution. Most of the acid-fast bacteria (AFB) in patient specimens are mycobacteria, such as (but not only) *Mycobacterium tuberculosis*.

3.2 Active TB disease

Also known as “TB disease”. People with active TB disease are usually symptomatic and have test results that are consistent with TB disease, such as laboratory tests that are positive for TB bacteria or chest x-ray results that suggest active TB disease. Some forms of active TB disease are infectious.

3.3 Airborne infection isolation room (AIIR)

Formerly called a “negative pressure isolation room”, an AIIR is a room designed to prevent the spread of infectious droplet nuclei, and has engineering controls such as negative-pressure ventilation.

3.4 Airborne precautions

A group of controls used to **in addition to** routine precautions to prevent transmission of organisms such as TB that are transmitted by the airborne route.

3.5 Bacille Calmette-Guerin (BCG)

A live, attenuated vaccine given to young children to prevent the most serious forms of TB disease, should they become infected with TB bacteria after receiving the vaccine. People that have received BCG vaccination can have false-positive tuberculin skin test (TST) reactions. History of BCG vaccination does not influence interferon gamma release assay (IGRA) results.

3.6 Case

A person with suspected or confirmed TB disease.

3.7 Cavities, Cavitory TB disease

Hollow spaces in the lungs that can be seen on chest x-rays. Cavities represent areas of lung tissue that have been destroyed by the TB disease process. They are often seen in people with very severe active pulmonary TB disease. Cavities can contain large numbers of TB bacteria, so cases with 'cavitory TB disease' are usually considered highly-contagious.

3.8 Contacts

People exposed to someone with infectious TB disease such as family members; roommates or housemates; close friends; coworkers; classmates; and others.

3.9 Contact investigation

A systematic process to identify, assess, and when indicated, to provide treatment for active TB disease or latent TB infection to contacts.

3.10 Disseminated TB disease

When a person has active TB disease affecting three or more sites at the same time, or where there is evidence of TB bacteria having spread through the blood (hematogenous dissemination). Miliary TB is an example of disseminated TB disease.

3.11 Droplet nuclei

Very small droplets of moisture (1 to 5 microns in diameter) that can be expelled when a person coughs, sneezes, speaks, sings or plays a wind instrument. When droplets contain TB bacteria, they are referred to as 'infectious droplet nuclei'. Droplet nuclei can remain suspended in the air for several hours and can travel on air currents to other areas.

3.12 Drug resistant TB disease (DR-TB)

Active TB disease caused by TB bacteria that are not killed or inhibited by standard concentrations of one or more TB medications.

3.12.1 Multidrug-resistant tuberculosis (MDR-TB)

Active TB disease caused by TB bacteria resistant to at least isoniazid and rifampin, with or without resistance to other TB medications.

3.12.2 Extensively drug-resistant tuberculosis (XDR-TB)

Active TB disease caused by TB bacteria resistant to at least isoniazid and rifampin **and** any fluoroquinolone, **and** at least one of three injectable second-line TB medications (capreomycin, kanamycin and amikacin).

3.13 Drug susceptibility test (DST)

Laboratory tests done to identify which TB medications a strain of TB bacteria is susceptible or resistant to.

3.14 Epidemiologic link (epi link)

A characteristic TB cases share that might explain where and when TB could have been transmitted between/among them.

3.15 Extrapulmonary TB disease

Active TB disease that involves sites other than the lungs, such as the lymph nodes, the pleura, the brain, the kidneys, or the bones. Most kinds of extrapulmonary TB are not infectious. This term is often used interchangeably with non-respiratory TB, but the definitions are slightly different.

3.16 Fit test

Testing done to determine which disposable N95 particulate respirator(s) fit a person well enough to prevent inhalation of infectious droplet nuclei (TB bacteria).

3.17 Genotyping

Laboratory tests used to determine the genetic pattern of the strain of *M. tuberculosis* that caused active TB disease in a person. Comparing genotypes from different cases can help identify whether they might be connected (epi-linked) to each other and/or other cases.

3.18 Infectious

When a person is capable of spreading infection. A person with infectious TB disease expels TB bacteria into the air when he or she coughs, sneezes, speaks, sings, or plays a wind instrument. People with laryngeal TB disease (TB laryngitis) can expel TB bacteria when they talk. People with smear-positive, cavitary TB disease or laryngeal TB disease are considered the most infectious.

3.19 Infectious period

The time during which a TB case is potentially capable of transmitting TB bacteria.

3.20 Interferon gamma release assay (IGRA)

A test used to determine if a person is infected with TB bacteria. The test measures the level of interferon- γ (IFN- γ) released when a sample of a person's blood is exposed to antigens from TB bacteria. IGRAs cannot differentiate between latent TB infection and active TB disease; additional tests (e.g., chest x-ray, testing of specimens for TB bacteria) are needed.

3.21 Latent TB infection (LTBI)

People with LTBI have been infected with TB bacteria but have not developed active TB disease. Their TST and IGRA results are usually positive but people with LTBI **do not** have signs or symptoms of active TB disease or test results that would be consistent with TB disease, such as laboratory tests that are positive for TB bacteria or chest x-ray results that suggest active TB disease. **LTBI is not infectious.**

3.22 Miliary TB

A type of disseminated TB disease that happens when TB bacteria spread through the bloodstream to all part of the body, and then begin to multiply. Miliary TB causes a particular pattern of disease on a chest x-ray that looks like millet seeds scattered throughout the lungs (diffuse micro-nodules).

3.23 Mycobacterial culture

Laboratory technique used to identify mycobacteria (such as but not limited to, *Mycobacterium tuberculosis*) in specimens submitted for TB testing. A "positive"

culture for *M. tuberculosis* contains TB bacteria. A “negative” culture contains no detectable TB bacteria. Good quality specimens are important for ensuring reliable culture results.

3.24 *Mycobacterium tuberculosis* complex

M. tuberculosis (including subspecies *M. canetti*), *M. bovis*, *M. bovis* BCG, *M. africanum*, *M. caprae*, *M. microtic*, and *M. pinnipedii*. All of these species except *M. bovis* BCG are included in the Canadian case definition of tuberculosis.

3.25 Non-respiratory TB disease

Refers to all other sites of TB disease that are not included in the definition of respiratory TB. The definition overlaps with, but is slightly different from the definition of extra-pulmonary TB.

3.26 Nontuberculous mycobacteria (NTM)

All mycobacterial species **except** those that cause TB disease and those that cause leprosy. NTM are also known as atypical mycobacteria or mycobacteria other than TB (MOTT). Common examples include: *M. avium* complex (MAC), *M. kansasii*, and *M. abscessus*.

3.27 Primary Prevention Therapy

Treatment for latent TB infection given to contacts whose initial tuberculin skin test (TST) result is less than 5 mm of induration (or whose interferon gamma release assay [IGRA] result is non-reactive) but who are at high risk for developing active TB disease before their 8-week post-exposure TST or IGRA can be done.

3.28 Pulmonary TB disease

In Canada, this definition includes: TB disease of the lungs and conducting airways; tuberculous fibrosis of the lung; tuberculous bronchiectasis; tuberculous pneumonia; and tuberculous pneumothorax.

3.29 Respiratory TB disease

In Canada, pulmonary TB disease includes; tuberculous pleurisy (non-primary); and TB disease of intrathoracic lymph nodes; mediastinum; nasopharynx; nose (septum); and sinus (any nasal).

3.30 Seal check

Formerly called “fit check”; a procedure performed each time a disposable N95 particulate respirator is put on to check that there is a proper seal between a person’s skin and the N95 s/he is wearing.

3.31 Smear

Laboratory technique for preparing a specimen so that TB bacteria can be seen with a microscope.

3.32 Source case

Person with active TB disease who transmitted TB bacteria to another person or persons.

3.33 Source case investigation

Type of contact investigation used to find a source case; usually done when a young child is found to have active TB disease.

3.34 TB meningitis

Meningitis caused by TB bacteria. TB meningitis is the most rapidly progressing form of TB disease, with 25% morbidity (permanent neurological deficit) and 15% to 40% mortality despite available treatment.

3.35 Tuberculin

A substance made from heat-killed TB bacteria; used to determine whether a person been infected with TB bacteria. Tuberculin is not a vaccine. Repeat injections with tuberculin cannot cause infection with TB bacteria or active TB disease.

3.36 Tuberculin skin test (TST)

Also known as a tuberculin test or a Mantoux (the name of the testing method). TST is a test used to determine if a person is infected with TB bacteria. TST cannot differentiate between latent TB infection and active TB disease; additional tests (e.g., chest x-ray, testing of specimens for TB bacteria) are needed.

3.37 Tumor necrosis factor-alpha (TNF-alpha) antagonists, inhibitors, or blockers

Medications used to treat inflammatory or autoimmune diseases such as rheumatoid arthritis, Crohn's disease, psoriatic arthritis, and juvenile rheumatoid arthritis.

3.38 Window period

The time between a contact's last exposure to an infectious TB case and when a tuberculin skin test (TST) or interferon-gamma release assay (IGRA) can reliably detect whether s/he became infected with TB bacteria.

SOURCES

Adapted from:

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